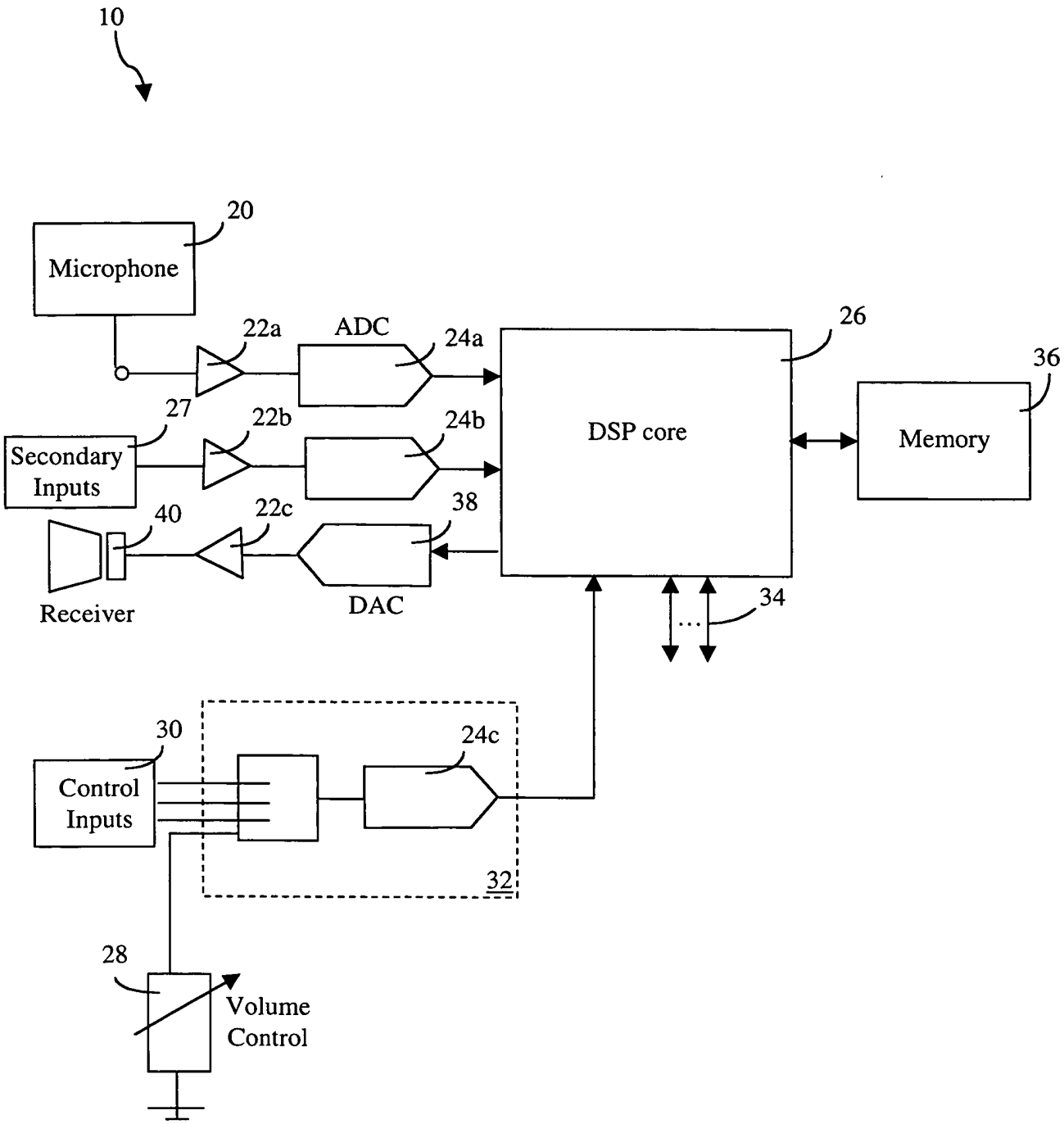
10
20
Microphone
22a
ADC
24a
26
36
27
22b
24b
DSP core
Memory
Secondary Inputs
40
22c
38
Receiver
DAC
34
30
24c
Control Inputs
32
28
Volume Control

FIG. 1

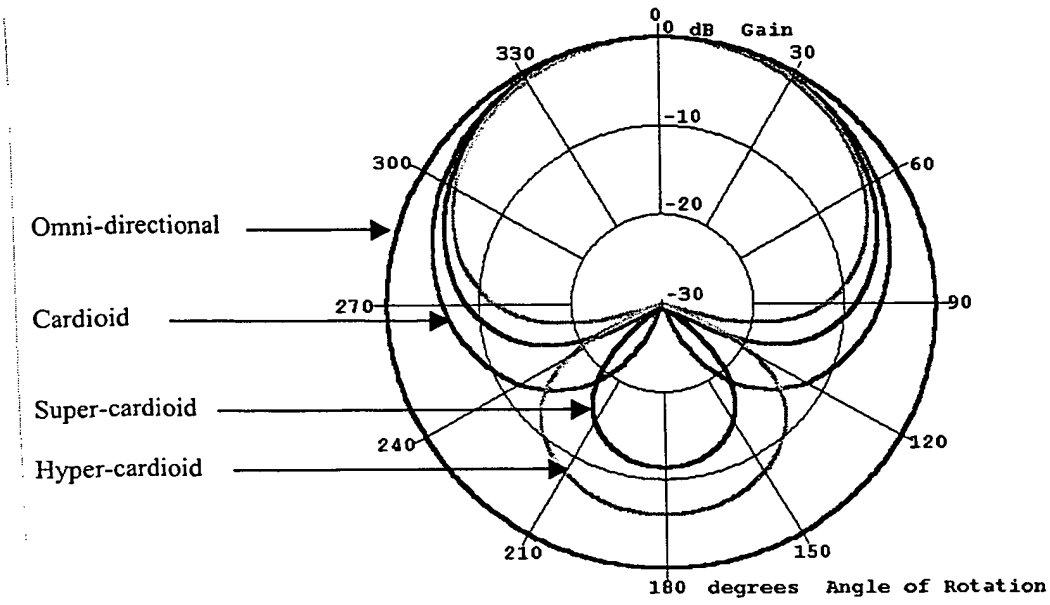
0
0 dB Gain
30
60
90
120
150
180 degrees Angle of Rotation
210
240
270
300
330
-10
-20
-30
Omni-directional
Cardioid
Super-cardioid
Hyper-cardioid

FIG. 2

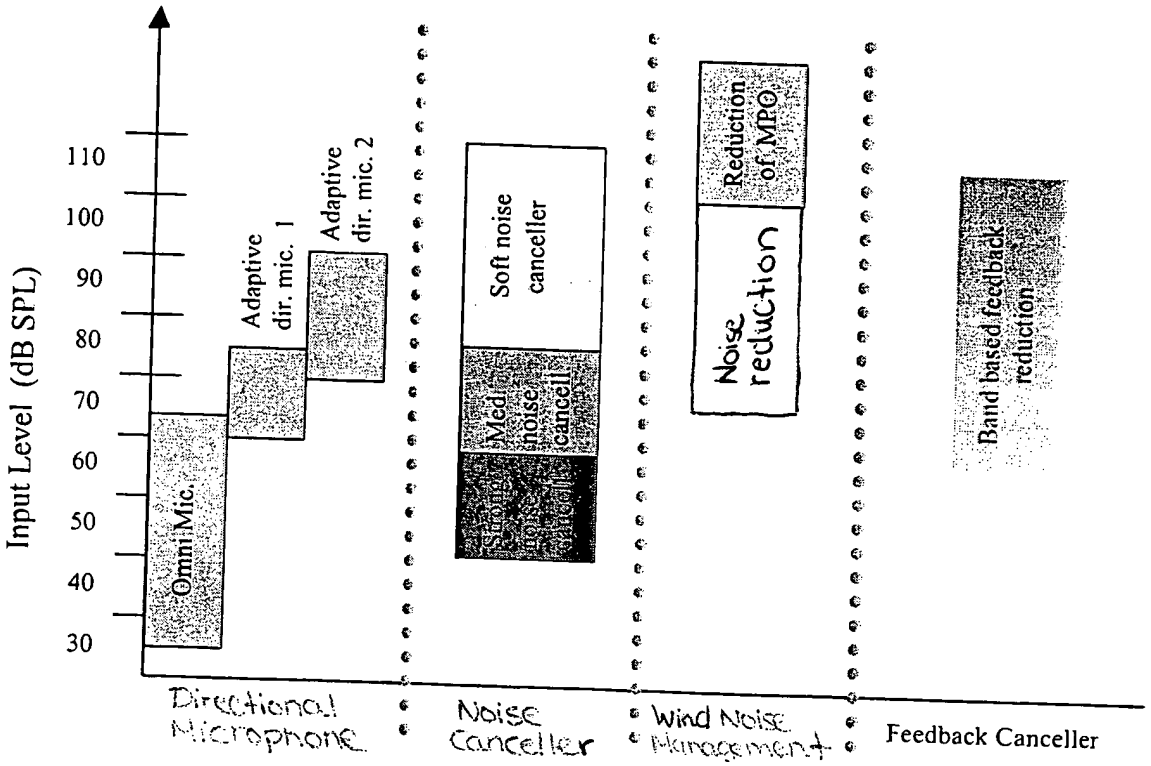
Input Level (dB SPL)
110
100
90
80
70
60
50
40
30
Omni Mic.
Adaptive dir. mic. 1
Adaptive dir. mic. 2
Soft noise canceller
Med noise canceller
Reduction of MPO
Noise reduction
Band based feedback reduction
Directional Microphone
Noise Canceller
Wind Noise Management
Feedback Canceller

FIG. 3

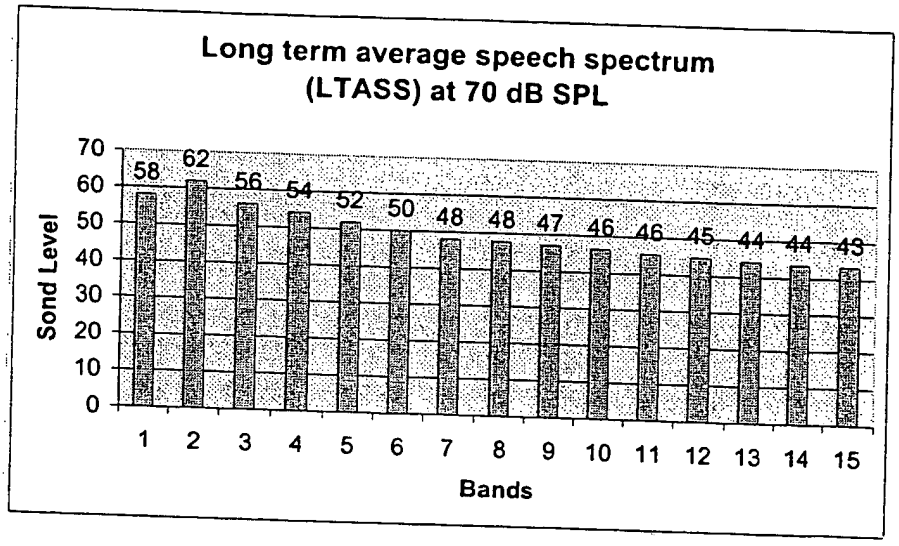
Long term average speech spectrum
(LTASS) at 70 dB SPL
Sond Level
70
60
50
40
30
20
10
0
58
62
56
54
52
50
48
48
47
46
46
45
44
44
43
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Bands

FIG. 4a

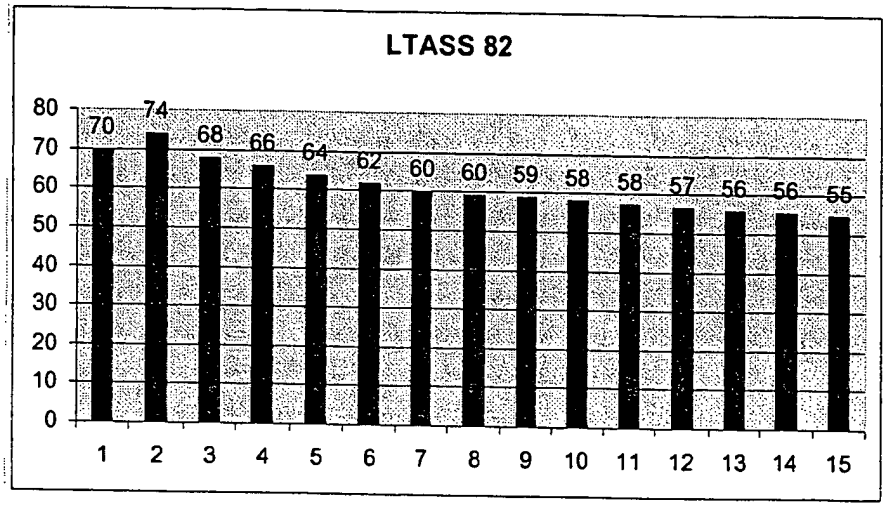
LTASS 82
80
70
60
50
40
30
20
10
0
70
74
68
66
64
62
60
60
59
58
58
57
56
56
55
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

FIG. 4b

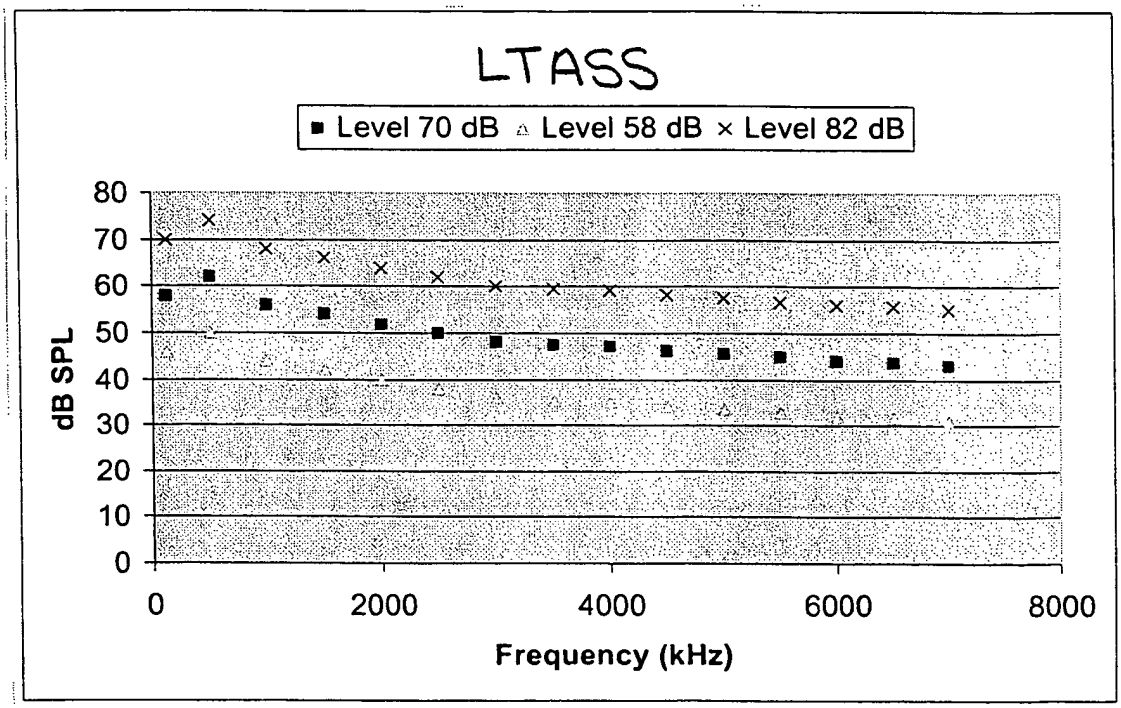
LTASS
Level 70 dB
Level 58 dB
Level 82 dB
dB SPL
80
70
60
50
40
30
20
10
0
0
2000
4000
6000
8000
Frequency (kHz)

FIG. 4C

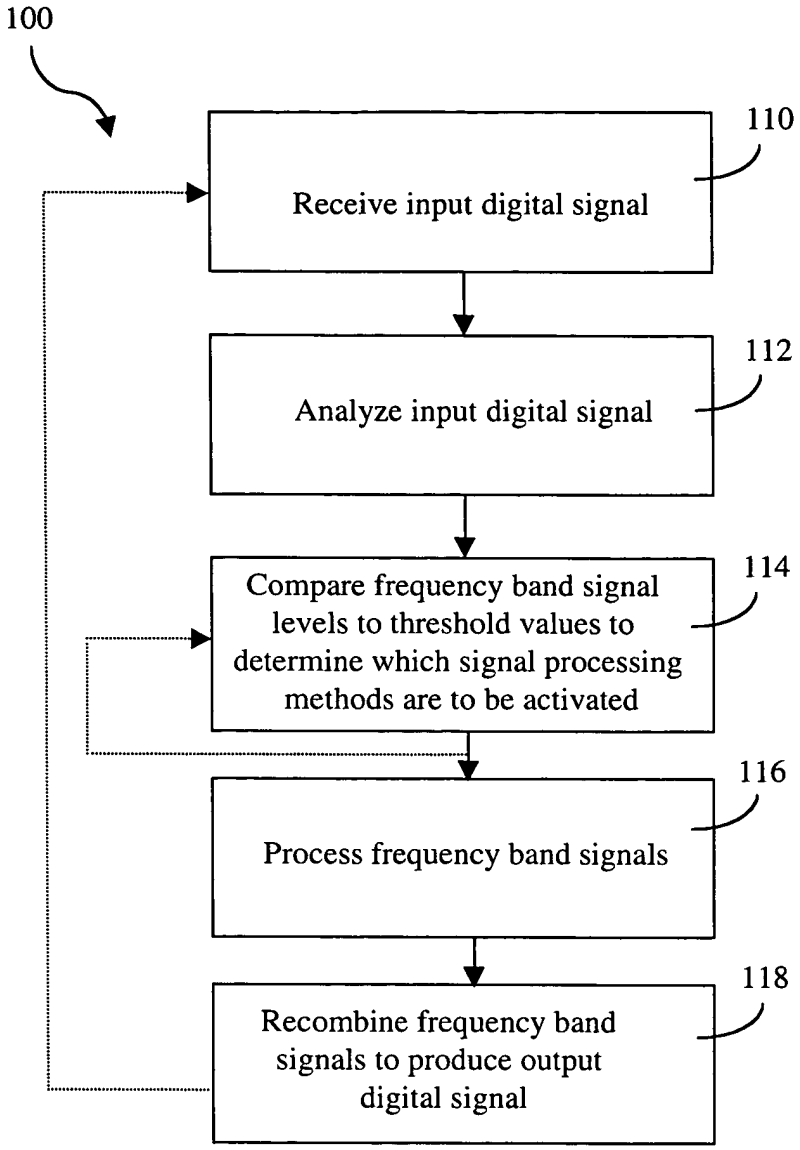
100
Receive input digital signal
110
Analyze input digital signal
112
Compare frequency band signal levels to threshold values to determine which signal processing methods are to be activated
114
Process frequency band signals
116
Recombine frequency band signals to produce output digital signal
118

FIG. 5